

In the Claims

1.-22. (Cancelled)

23. (New) A method for manufacturing an induction hardened member comprising the step of:

hot working a steel consisting of C: 0.35-0.7%, Si: 0.30-1.1%, Mn: 0.2-2.0%, Al: 0.005-0.25%, Ti: 0.005-0.1%, Mo: 0.05-0.6%, B: 0.0003-0.006%, S: 0.06% or less, P: 0.02% or less, Cr: 0.2% or less, by mass, and a balance of Fe and inevitable impurities;

cooling the hot worked steel at a cooling rate of at least 0.2°C/s, thereby manufacturing a steel product having a structure of bainite and/or martensite, the total volume fraction of bainite and martensite being 10% or more;

subjecting the steel product to induction hardening at least once, wherein the heating temperature of the final induction hardening is 800-950°C,

wherein the thickness of a hardened layer formed on the surface of the steel product by induction hardening is 2 mm or more, and the prior austenite grain size of the hardened layer is 12 μm or less through the thickness of the hardened layer.

24. (New) The method according to Claim 23, wherein the steel subject to the hot working further comprising at least one selected from the group consisting of Cu: 1.0% or less, Ni: 3.5% or less, Co: 1.0% or less, Nb: 0.1% or less, and V: 0.5% or less, by mass.

25. (New) The method according to Claim 23, wherein the heating temperature of all the induction hardenings is 800-1000°C and the heating temperature of the final induction hardening is 800-950°C.

26. (New) The method according to Claim 24, wherein the heating temperature of all the induction hardenings is 800-1000°C and the heating temperature of the final induction hardening is 800-950°C.

27. (New) The method for manufacturing an induction hardened member according to Claim 23, wherein the heating time of the final induction hardening is 5 seconds or less.

28. (New) The method for manufacturing an induction hardened member according to Claim 24, wherein the heating time of the final induction hardening is 5 seconds or less.

29. (New) The method for manufacturing an induction hardened member according to Claim 25, wherein the heating time of all the induction hardenings is 5 seconds or less.

30. (New) The method for manufacturing an induction hardened member according to Claim 26, wherein the heating time of all the induction hardenings is 5 seconds or less.